

**MEETING NOTES**

Final 5/5/15

**Meeting Date:** August 18, 2014

**Meeting Notes**

**Submittal Date:** December 16, 2014 – Submitted to NDEP

**Place:** Meeting Held via GoToMeeting Teleconference

**Project/Purpose:** NV Energy - Reid Gardner Station  
Implementation of Administrative Order on Consent (AOC)  
Quarterly AOC Meeting

**Attendees:** Alison Oakley/NDEP  
Scott Smale/NDEP  
Brad Cross/ARCADIS U.S., Inc.  
John Kivett/ARCADIS U.S. Inc.  
Michael Shivell/ACADIS U.S. Inc.  
David Hull/ARCADIS U.S., Inc.  
Julie Sueker/ ARCADIS U.S., Inc.  
Mike Rojo/NV Energy  
Jason Reed/NV Energy  
Tony Garcia/NV Energy  
Scott Dethloff/CH2M HILL  
Matt Johns/CH2M HILL  
Sergio Escobar/CDWR  
Peter Mesard/Exponent  
Joseph Scalia/Exponent  
Brad Bessinger/S.S. Papadopoulos & Associates, Inc.  
Becky Svatos/Stanley Consultants  
Bill Carrig/Stanley Consultants  
Todd Knause/Stanley Consultants  
Africa Espina/Stanley Consultants  
Cam Conrad/Stanley Consultants  
Cindy Quast/Stanley Consultants  
**Notes By:** Bill Carrig/Stanley Consultants

A meeting was held between representatives of NV Energy, the California Department of Water Resources (CDWR), and the Nevada Division of Environmental Protection (NDEP) via

GoToMeeting Teleconference on August 18, 2014, to discuss the status of the implementation of the AOC signed by NV Energy and NDEP on February 22, 2008. Below is a summary of the discussion of topics from the meeting.

***Muddy River Work Plan –***

Limited Data Collection Activities - In an effort to gather information to help with the preparation of the Muddy River Work Plan, NV Energy provided a table outlining limited data collection activities planned for August 2014. A figure showing the locations of the data collection activities was also provided. Anticipated August 2014 data collection activities are summarized below:

*Muddy River Transects* - Currently available Muddy River transect data are limited; therefore, NV Energy plans to survey ten transects across the Muddy River. The survey information will be used to better define the location and elevation of the river surface and bottom in relation to groundwater elevation. NV Energy reported that measurements will be taken roughly every foot along each transect. Prior to surveying, brush will be cleared to facilitate access. Additional surveying will document invert elevations, pipe diameters, and other pertinent information needed for the study. During the surveying activities, NV Energy will look for visual evidence of groundwater seepage. NV Energy will also attempt to use an infrared camera that is currently maintained at the Station to see if there is a surface temperature difference in the river that may indicate groundwater seeping into the river.

*Micro-wells* - The installation of micro-wells may be attempted during this investigation to evaluate the interaction between groundwater and the Muddy River. The locations of the potential micro-wells have not yet been determined and the method has not been attempted at the site before. If the micro-wells are successful, their use can be discussed further with the NDEP in October 2014 during the Muddy River investigation workshop.

*Muddy River Flow Measurement* - NV Energy plans to measure flows at eight locations along the Muddy River within the reach of the evaporation ponds and Station. These measurements will be used to revise the Muddy River flow balance previously prepared using river flows upstream and downstream of the Station. Additionally, surface water quality will be monitored at these locations and samples will be collected for laboratory analysis.

*Groundwater Monitoring* - To better evaluate geochemical processes that may be occurring in the groundwater, supplemental field and laboratory parameters will be measured at 44 groundwater wells during the routine groundwater monitoring event scheduled for later in August. The groundwater monitoring effort will also include bacterial analysis utilizing Hach BART Test Combination Packages at selected wells.

- Recommendations: ARCADIS, U.S., Inc., recommended collecting information regarding the thickness of the soft sediments at the bottom of the Muddy River. This can be done by surveying the elevation of the top of the sediments and then the elevation of refusal.

ARCADIS, U.S., Inc., also recommended the collection of field measurements such as temperature, Oxygen Reduction Potential (ORP), dissolved oxygen (DO), temperature, conductivity, and pH approximately two to six inches into the sediments at a few of the transect locations.

ARCADIS, U.S., Inc., suggested adding methane and carbon dioxide to the groundwater analyte list to complement analyses pertaining to reduction and oxidation.

NDEP suggested that surface water quality field data could be collected upstream and downstream of the location where the South Gate Spring discharges into the river.

- Action Items: The NDEP may provide additional comments on the proposed data collection activities for NV Energy to consider. The NDEP requested an e-mail providing a schedule of field activities.

Geochemical CSM – NV Energy and Brad Bessinger from S.S. Papadopoulos & Associates, Inc. (SSPA), reported that their goal is to provide updated tables and figures that summarize preliminary findings associated with the geochemical CSM to the NDEP by September 16, 2014. There will not be a completed report provided to the NDEP in advance of the October 2014 Muddy River Workshop; however, SSPA will make a presentation on the findings to date. An additional goal for the geochemical CSM is to determine what geochemical processes, if any, are affecting the behavior of critical chemicals of concern (COCs) in the subsurface. Additional preliminary evaluations include reviewing the Total Dissolved Solids (TDS) data in the Muddy River at locations upgradient and downgradient of the Station, and determining a Muddy River TDS mass balance.

- Recommendations: ARCADIS, U.S., Inc., suggested that high TDS concentrations in groundwater beneath the ponds at the Station may be changing the density of the groundwater and altering groundwater flow. SSPA reported that this will be considered in their preliminary evaluation.

Site Geology – A figure showing geologic cross sections to be completed and/or updated at the site was discussed. Many of these cross sections have already been generated or drafted as part of the Preliminary CSM.

- Action Items: NDEP requested four additional cross sections. NV Energy anticipates that these cross-sections will be provided to the NDEP by September 23 and discussed at the October 2014 Muddy River workshop.

October 2014 Muddy River Workshop – A workshop is scheduled for October 7-8, 2014. A site visit will occur at the Station in the morning of October 7, 2014, starting at 8:00 AM and a workshop meeting will be held at the Station in the afternoon. The workshop meeting will continue at the NDEP Pearson Building on October 8 (times to be determined). NV Energy anticipates that the following items will be provided to the NDEP in advance of the workshop:

- Preliminary Geochemical CSM figures and tables
- Pivot charts showing groundwater and surface water elevations
- Revised Muddy River Flow Balance (based on new data collected in August 2014)

- Field and laboratory data collected during the August 2014 data collection effort (if available)
- Soil sampling strategy below the ponds to evaluate potential secondary sources
- Meeting agenda

**Background Conditions Report** – NV Energy revised the Background Conditions Report based on NDEP’s comments dated April 28, 2014, and submitted the revised report to NDEP on August 1, 2014.

- Action Item: NDEP has started reviewing the revised report and plans to have comments to NV Energy by September 20.

**Mesa Groundwater** – NV Energy reported that they plan to conduct statistical analyses of concentrations in Mesa groundwater monitoring wells based on background levels presented in the July 2014 Background Conditions Report.

- Action Item: NDEP to provide direction/clarification on what/how the groundwater data should be evaluated. A conference call may be held once a path forward is determined and the Background Conditions Report has been finalized.

**Closure Plan** – Based on changes to the regulations, NV Energy will revise the Closure Plan that was previously submitted to the NDEP and approved in 2008.

- Action Item: NV Energy will submit the Closure Plan to NDEP in September.

**Laser Induced Fluorescence (LIF) Investigation Work Plan Implementation** – Implementation of the NDEP-approved LIF Investigation Work Plan began in July 2014 and is approximately 10% complete. Underground utility clearances have been completed at over 70 locations. Delays were encountered due to the LIF vendor experiencing a xenon gas leak in their equipment and due to refusal in some boreholes. However, work is expected to resume during the week of August 18. NV Energy expects that a report summarizing the LIF activities will be submitted to the NDEP in November 2014 (within 60 days following project completion).

**Diesel Recovery System** – NV Energy informed NDEP that scheduled maintenance is currently being conducted on the diesel recovery system including the replacement of a heat exchanger and changing out filters and hoses. A new transfer pump and an additional spare transfer pump have been ordered and the system is expected to be up and running later in August 2014.

**Pond 4A/4C-1/4C-2/E-2 Solids Removal** – Pond 4A solids were sampled during the week of July 7, 2014, in accordance with the NDEP-approved Pond 4A Solids Removal Work Plan. The laboratory data still need to be validated by a third party prior to being submitted to the NDEP. Contractor mobilization for the removal of pond solids from Ponds 4A, 4C-1 and 4C-2 began on August 18, 2014. Currently, NV Energy plans to begin with solids removal at Pond 4A for approximately three weeks and then begin concurrently removing solids at Pond 4C-2. NV Energy also plans to begin pond solids removal at Pond E-2 in October 2014. NV Energy anticipates that solids removal

activities at Pond 4C-2 will be complete in February 2015, Pond E-2 in March 2015, and Pond 4A in July 2015.

- **Action Item:** NV Energy will submit a letter to NDEP outlining a plan to sample underlying soils based on the results of the solids sampling, as discussed in the Solids Removal Work Plans. Prior to solids removal activities at Pond E-2, a Solids Removal Work Plan will be submitted to the NDEP for approval. NV Energy expects that this work plan may be submitted to the NDEP in early September. NDEP requested a solids removal schedule, once anticipated milestone dates have been further defined.

**Pond B-3** –Pond B-3 is currently out of service. NV Energy is currently making efforts to mitigate fugitive dust while ensuring that water is removed. Solids removal activities at Pond B-3 are scheduled for 2016; however, NV Energy is currently considering the possibility of removing these solids in 2015 as part of the current solids removal project. If this decision is made, a Solids Removal Work Plan will be submitted to the NDEP for approval.

**NDEP Website** – NDEP recently updated their website with respect to the Station and included updated wording provided by NV Energy. Links to Google maps and the facility diagram have also been fixed. NDEP indicated that they want to continue receiving electronic pdf copies of final documents to post to the NDEP website. NV Energy will provide an updated Community Relations Fact Sheet in 2014 for the NDEP to provide on the website. NV Energy will meet with the Moapa Band of Paiutes Tribal Council to update them on the upcoming solids removal project as well as planned demolition/decommission activities for Units 1, 2, and 3. Meetings have also been held with the Moapa Valley Town Advisory Board.

- **Action Item:** NV Energy will provide an updated Community Relations Fact Sheet in 2014 for the NDEP to provide on the website.

**Groundwater Sampling Reduction Memo** – NV Energy currently plans to provide a memo to NDEP requesting groundwater sampling reductions associated with the Groundwater Monitoring Program currently in place at the Station.

**Letters Requesting Investigation Closed Determination** – NV Energy currently plans to provide brief letters requesting “Investigation Closed” determinations for the following source areas in 2014:

- Hydrogen Peroxide Tank Release (PA-8)
- Reported Previous Waste Disposal Area (WMU-8) (SA-17)
- Former Diesel AST (850,000-gallon) (SA-12)

**Additional Work Plans** – Following completion of the LIF investigations and shutdown of Units 1, 2, and 3, NV Energy plans to provide Work Plans for soil and/or groundwater investigations for the following source areas:

- Units 1 and 2 Emergency Diesel Generator (SA-9)
- Former Units 1,2,3 Lube Oil Rack (SA-10)

- Former Gasoline UST (1,000-gallon) and Warehouse 1 (SA-11)
- Former Diesel Fuel Unloading Area (SA-13)
- Free Product Recovery System (SA-15)
- Vehicle Maintenance Area (SA-16)

***Planned AOC Activities for 2014-2015*** – NV Energy provided an update of planned AOC activities during a meeting with the NDEP on July 29, 2014; therefore, NV Energy understands that NDEP no longer needs an update on planned activities for 2014-2015, as requested during the February 28, 2014, meeting. However, the NDEP would like a more detailed schedule (e.g., start/stop dates for LIF work, solids removal, etc.) to facilitate site visits during field activities. The NDEP also stated that they would like ARCADIS U.S., Inc., to visit the site to oversee transect surveys and check-in on the LIF work.

## NDEP Action Items from Quarterly AOC Meeting on August 18, 2014

DELIVERABLES SUBMITTED TO THE NDEP				
Priority	Deliverable	Submittal Date	Party Responsible	Notes
1	Revised Background Report	8-1-14	NDEP/ARCADIS U.S.	
2	Meeting minutes from January 29, 2014, quarterly AOC meeting/background workshop	6-9-14	NDEP/ARCADIS U.S.	
3	Meeting minutes from April 30, 2014 quarterly AOC meeting	7-24-14	NDEP/ARCADIS U.S.	
NEAR TERM DELIVERABLES TO BE SUBMITTED TO THE NDEP				
Deliverable		Estimated Delivery Date	Party Responsible	Notes
Pond E2 Solids Removal Work Plan		Third Quarter 2014	NV Energy /Stanley Consultants	
PA-8 (H2O2 Tank Release) request for No Further Investigation (NFI) status		Third/Fourth Quarter 2014	NV Energy /Stanley Consultants	
SA-12 (Former Diesel AST) request for NFI status		Third/Fourth Quarter 2014	NV Energy /Stanley Consultants	
SA-17 (WMU 8 Previous Disposal Area) request for NFI status		Third/Fourth Quarter 2014	NV Energy /Stanley Consultants	
Draft Laser Induced Fluorescence Report		Third/Fourth Quarter 2014 (60 days after completion of field work)	NV Energy /Stanley Consultants	
Pond 4A Solids Data Validation Reports		Third/Fourth Quarter 2014	NV Energy /Stanley Consultants	
Letter Outlining Proposed Pond 4A Soil Sampling Parameters		Third/Fourth Quarter 2014	NV Energy /Stanley Consultants	
Draft Geochemistry CSM Report		December 2014	NV Energy /Stanley Consultants	NVE to discuss with NDEP prior to submittal.
Muddy River Investigation Work Plan		December 2014	NV Energy /Stanley Consultants	NVE to discuss with NDEP prior to submittal.
Annual Groundwater Monitoring Report		1-30-15	NV Energy /Stanley Consultants	
Revised Closure Plan addressing regulatory changes since 2008		TBD	NV Energy /Stanley Consultants	
Provide revised wording suggestions for the NDEP website		TBD	NV Energy /Stanley Consultants	
Ponds D/G solids removal oversight report		TBD	ARCADIS U.S.	ARCADIS U.S. to document their oversight activities

**NV Energy – Reid Gardner Station  
Implementation of Administrative Order on Consent  
Quarterly AOC Meeting  
August 18, 9:00 AM  
List of Attendees**

<b>Name</b>	<b>Representing</b>	<b>Phone</b>	<b>E-Mail</b>
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